

ANDREYEV, Georgiy Borisovich, inzh.; VOLOBUYEV, Viktor Mikhaylovich, inzh.; GORYUNOV, Boris Fedorovich, doktor tekhn.nauk,prof.; SMIRNOV, Nikolay Andreyevich, kand.tekhn.nauk; SOBOLEV, Georgiy Aleksandrovich, inzh.; Prinimali uchastiye: ANNENKOV, Ye.N., inzh.; ZLATOVERKHNIKOV, L.F., kand.tekhn.nauk; KORCHAGINA, A.Ya., inzh.; KRIVITSKIY, S.I., inzh.; RUMYANTSEV, A.N., inzh.; LAPINA, Z.D., red.; MOSHAROVA, T.P., red.; TIKHONOVA, Ye.A., tekhn. red.

[Technical operation of hydraulic engineering structures in harbors]Tekhnicheskaya ekspluatatsiya portovykh gidrotekhnicheskikh sooruzhenii. [By] G.B.Andreev i dr. Moskva, Izd-vo "Morskoi transport," 1962. 375 p. (MIRA 15:8)
(Hydraulic structures) (Harbors)

STOL'NIKOV, Vladimir Vladimirovich; KIND, Vladimir Vladimirovich;
SMIRNOV, N.A., red.; ZHITNIKOVA, O.S., tekhn. red.

[Fly ash concrete for hydraulic structures] Gidrotekhnicheskii beton s dobavkoi toplivnoi zoly-unosa. Moskva,
Gosenergoizdat, 1963. 122 p. (MIRA 17:3)

SMIRNOV, N.A.

Morphological aspects of quadrigeminal dislocation syndrome in
median and parasagittal tumors [with summary in English, p.62-63].
Vop.neirokhir. 22 no.1:18-23 Ja-F '58 (MIRA 11:3)

1. Nauchno-issledovatel'skiy ordena Trudovogo Znameni institut
neyrokhirurgii imeni akad. N.N. Burdenko Akademii meditsinskikh nauk
SSSR.

(BRAIN NEOPLASMS, pathology,
quadrigeminal morphol. aspects in median & parasagittal
tumors (Rus)

SMIRNOV, N.A. (Moskva)

Anatomical and clinical characteristics of the dislocation
quadrigemino-mesencephalic syndrome in tumors of the posterior
cranial fossa. Vop.neirokhir. 23 no.4:12-17 Jl-Ag '59.
(MIRA 12:10)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni
institut neyrokhirurgii imeni akad.N.N.Burdenko AMN SSSR.
(BRAIN NEOPLASMS, case reports,
quadrigemino-mesencephalic synd. in tumors of
posterior cranial fossa (Rus))

SMIRNOV, N.A. (Moskva)

Characteristics of dislocation of the quadrigeminal syndrome in
tumors of the temporal lobe. Vop.neirokhir. no.4:62-64 '61.
(MIRA 14:12)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni
institut neyrokhirurgii imeni akad. N.N. Burdenko AMN SSSR.
(BRAIN---TUMORS)

DMITRIYENKO, Yu.I., inzh.; IVASHIN, V.M., inzh.; MATSYUK, M.F., inzh.;
PANIN, G.G., inzh.; SMIRNOV, N.D., inzh.; YAKOVLEV, N.A., inzh.

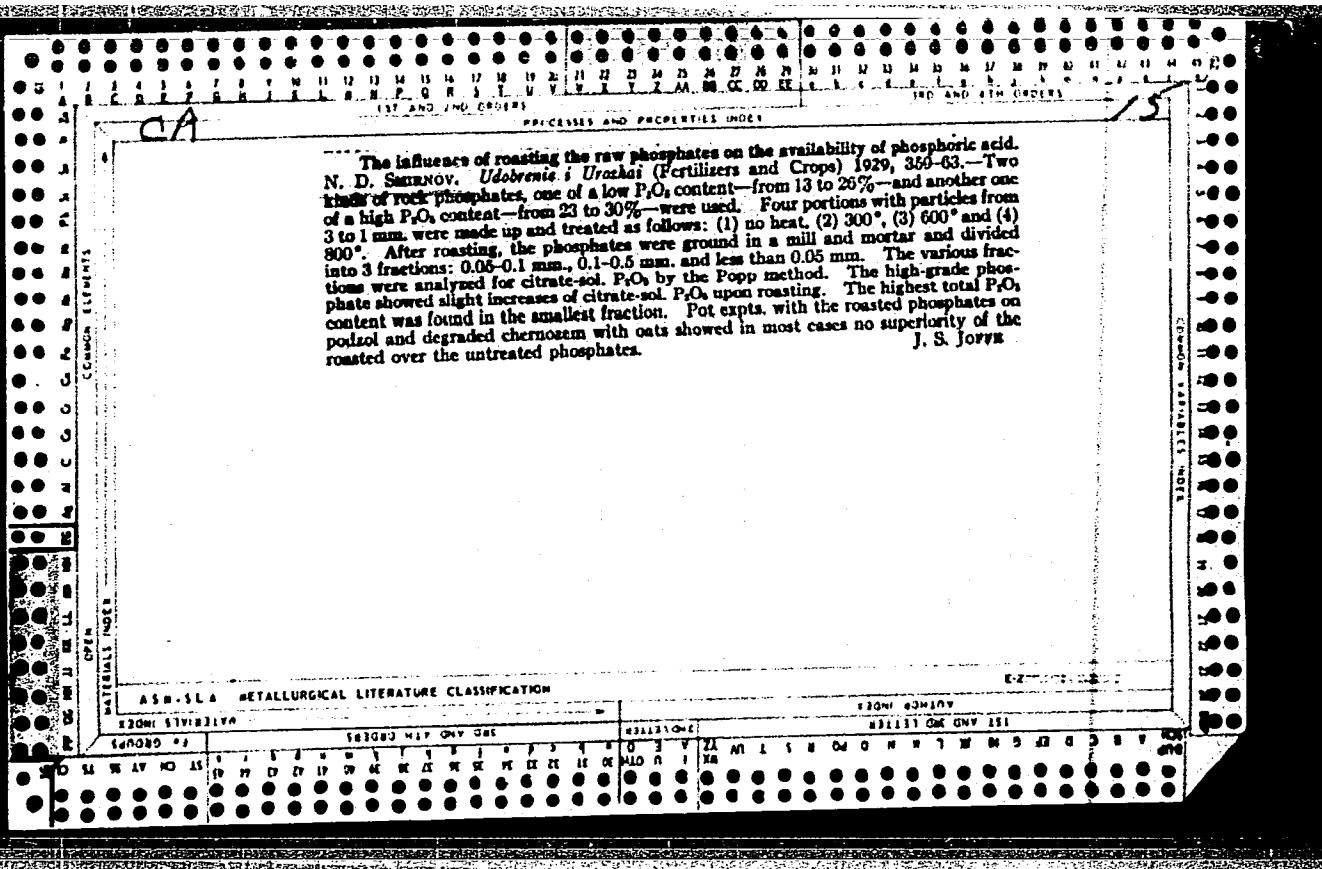
Ways of increasing the labor productivity of miners at the
mines of the "Luganskugol'" Combine. Shakht. stroi. 8 no.2:
2-7 F '64. (MIRA 17:3)

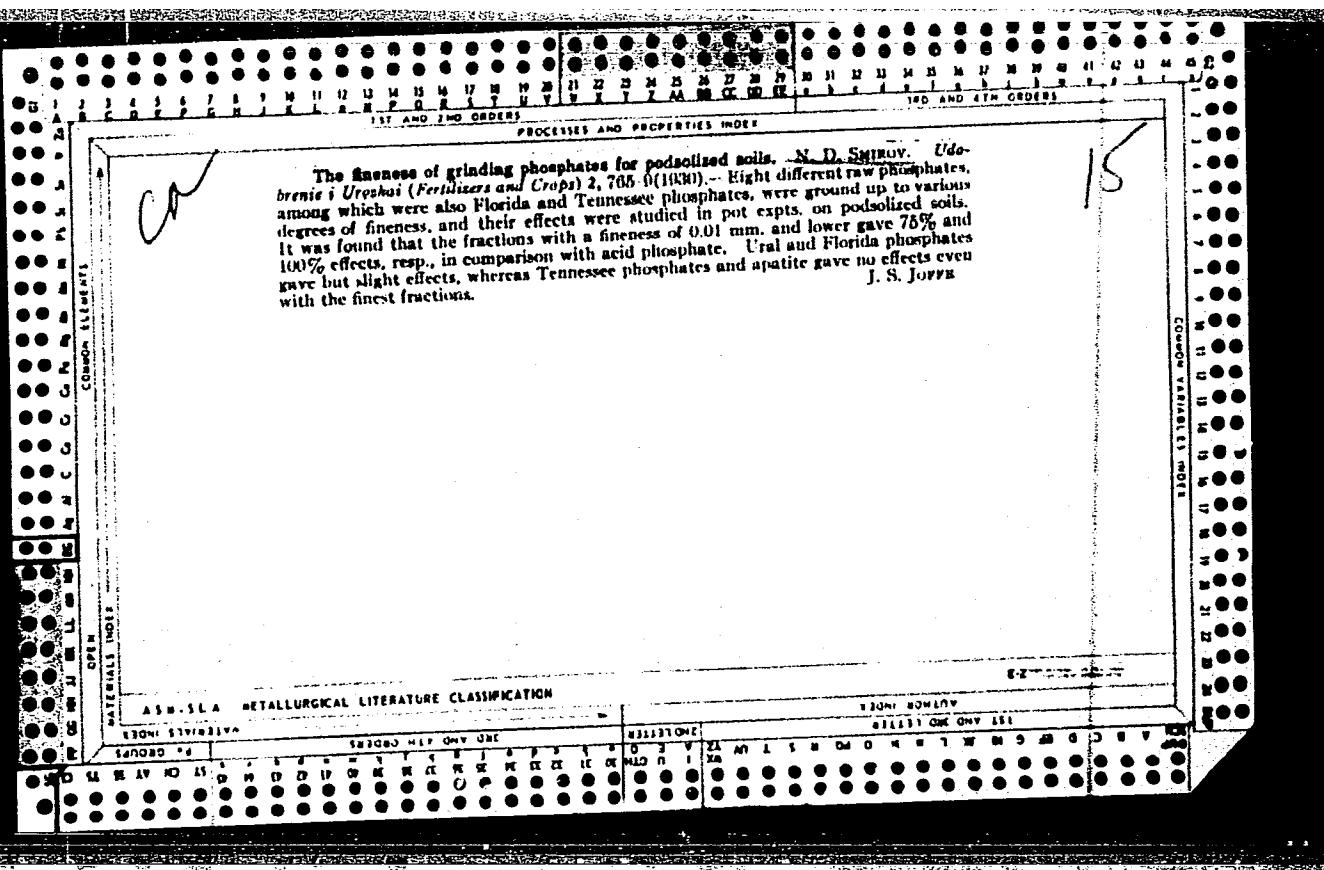
1. Normativno-issledovatel'skaya stantsiya kombinata
Luganskugol' (for all, except Yakovlev). 2. Kommunarskiy
gorno-metallurgicheskiy institut (for Yakovlev).

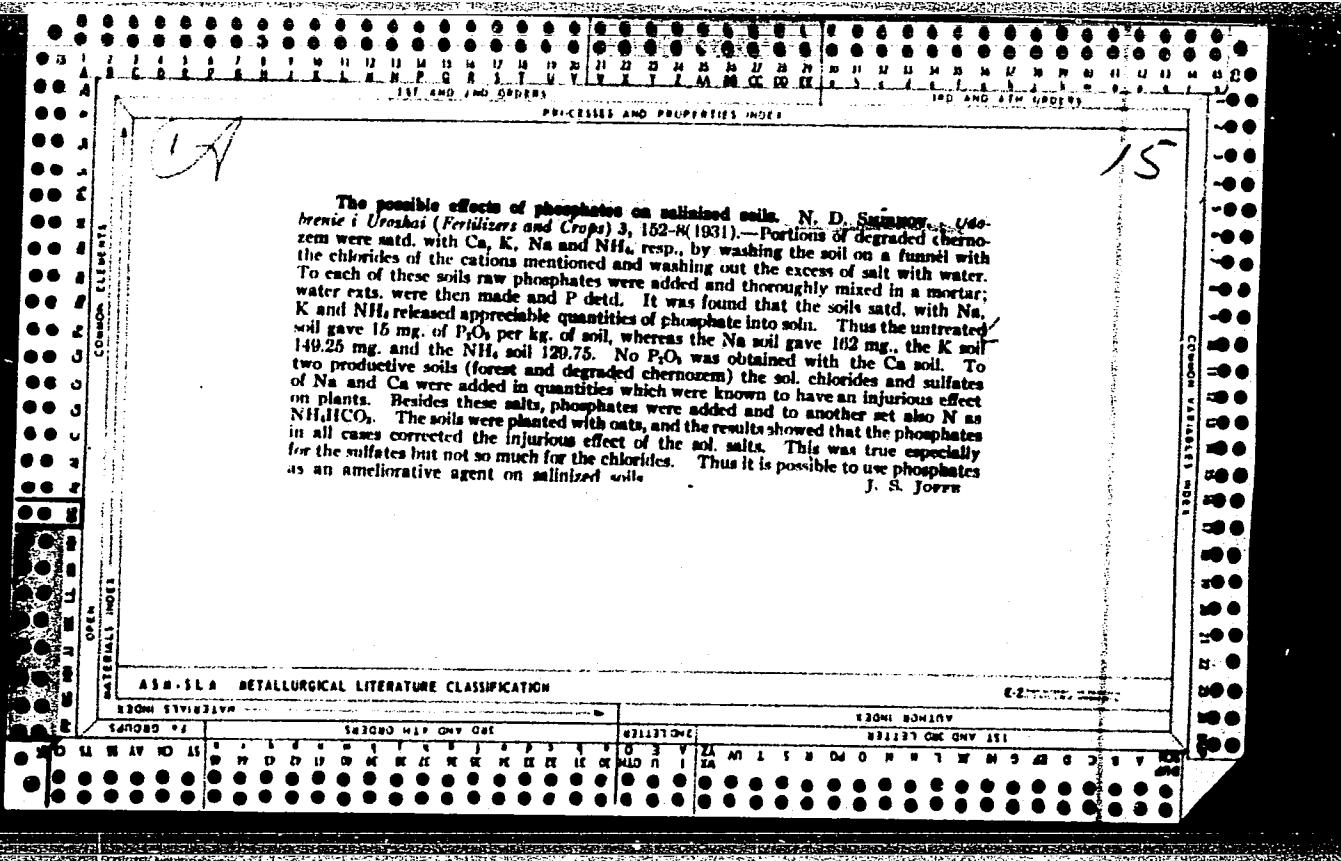
PSHESLAVSKIY, M.M.; SMIRNOV, N.D.

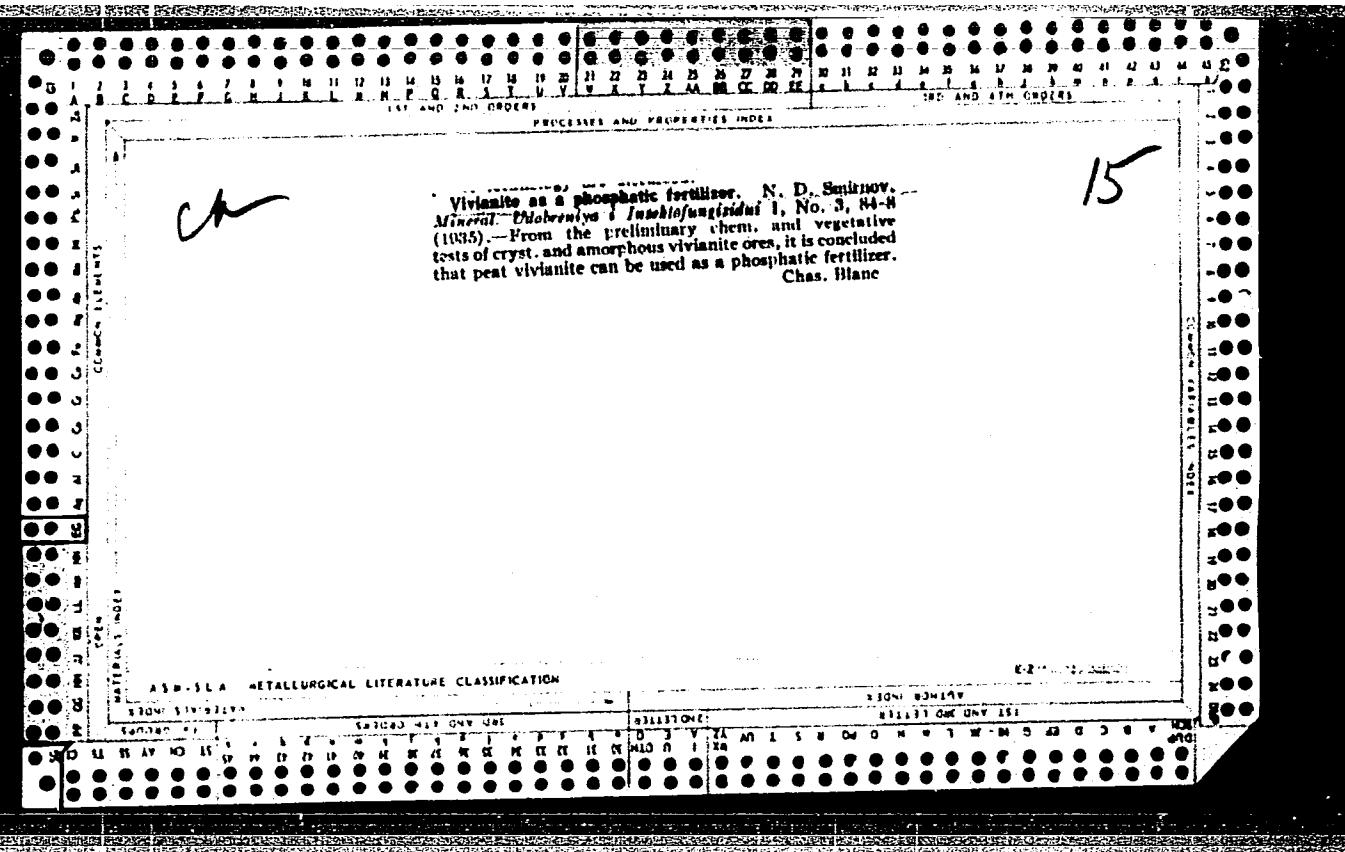
Fulfill the seven year plan ahead of time. Ugol' 39 no.5:15..16
My '64. (MIRA 17:8)

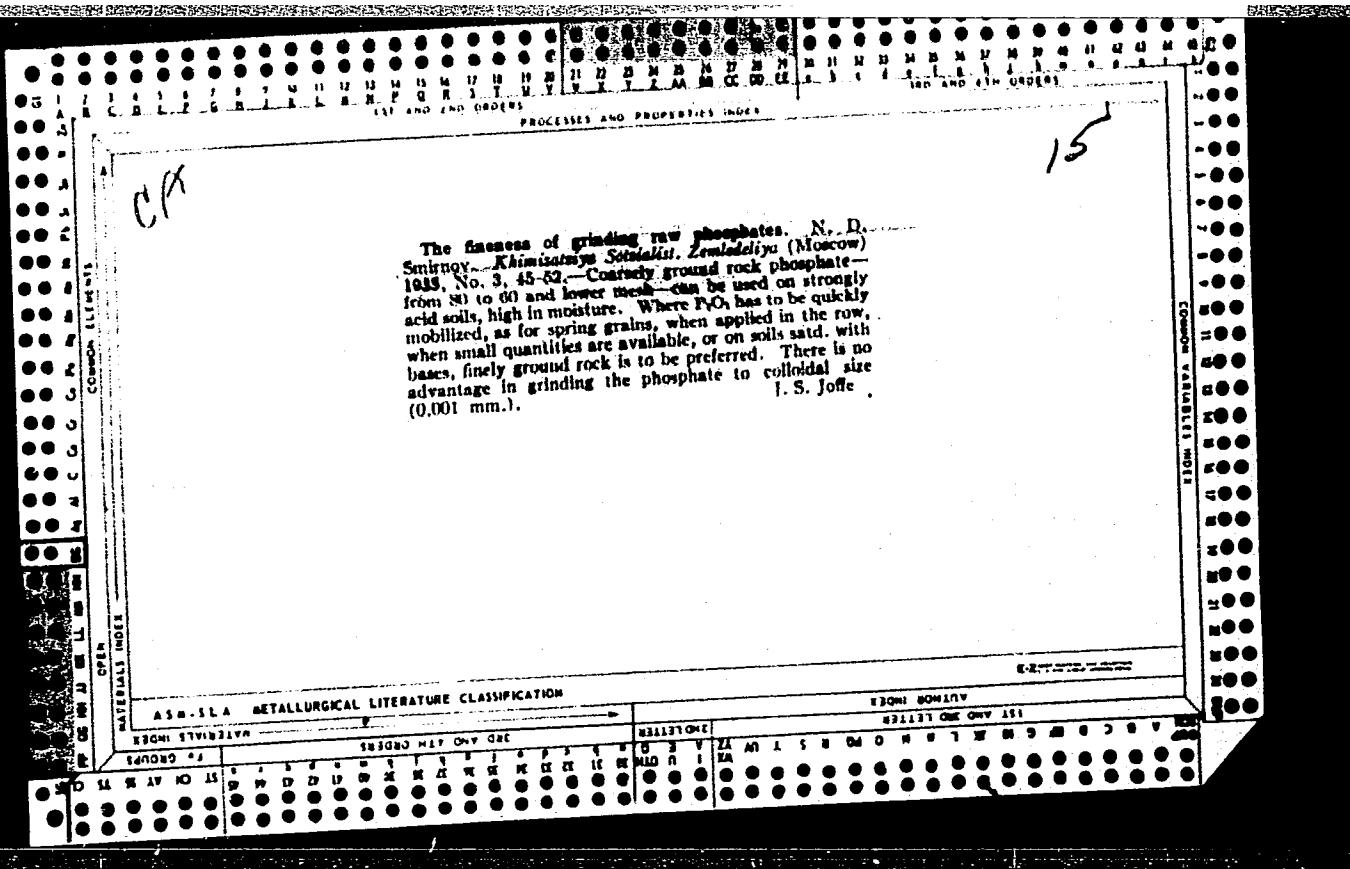
1. Shakhta im. Il'icha tresta Kadiyevugol' (for Psheslavskiy).
2. Normativno-issledovatel'skaya stantsiya kombinata luganskugol'
(for Smirnov).

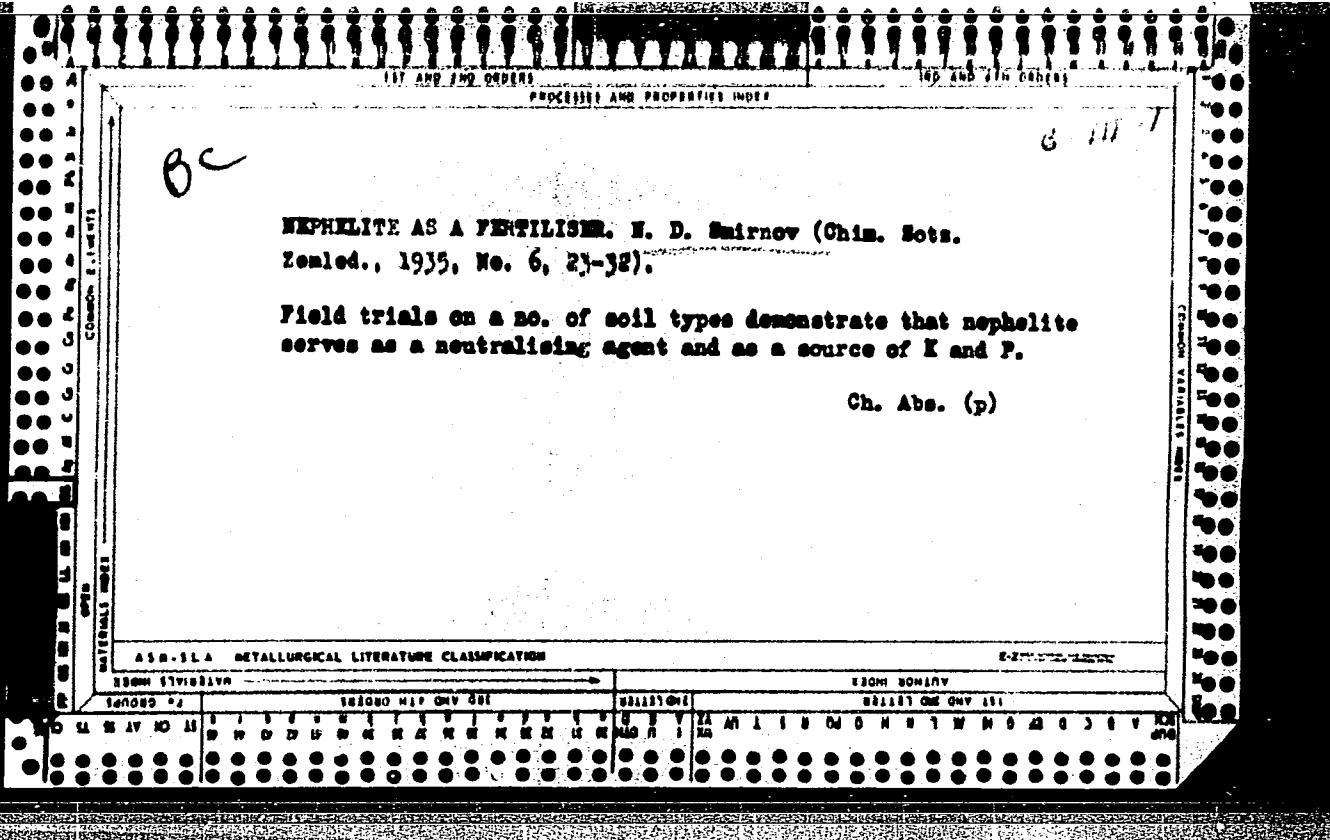












6A

15

The degree of fineness of ground phosphorite from different phosphorites. N. D. Smirnov. *Trans. Sci. Inst. Fertilizers Investigaciões (U.S.S.R.)* No. 141, 216-28 (1985); *Chem. Zentr.* 1939, II, 3339; cf. C. A. 34, 4510. — The degree of fineness in the production of powd. phosphorite is detd. chiefly by the petrographic compn. of the phosphorite. During the grinding, the finer fractions of phosphorites high in quartz become enriched in P_2O_5 and R_2O_3 and lose SiO_2 . With powd. phosphorite from glauconitic and argillaceous phosphorites, the different fractions show no distinct difference in compn. The chem. action of the phosphorites as fertilizer depends in large measure on the mineralogical compn. of the phosphate contained in them; thus karskite, $2Ca_3(PO_4)_2 \cdot CaCO_3 \cdot CaF_2$, is well assimilated, while apatite is assimilated only with difficulty. Screens of 0.5, 0.25, 0.17 and 0.10 mm. are recommended for the segmt. of the fractions. The material has been ground sufficiently when 30-40% of the product is retained on the 0.17-mm. screen in the case of phosphorites with coarse sand grains. For phosphorites with finer sand grains this value is 15-20%, while with glauconitic and argillaceous phosphorites not more than 10% of the product should be retained on this screen. M. G. M.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	10010	10011	10012	10013	10014	10015	10016	10017	10018	10019	10020	10021	10022	10023	10024	10025	10026	10027	10028	10029	10030	10031	10032	10033	10034	10035	10036	10037	10038	10039	10040	10041	10042	10043	10044	10045	10046	10047	10048	10049	10050	10051	10052	10053	10054	10055	10056	10057	10058	10059	10060	10061	10062	10063	10064	10065	10066	10067	10068	10069	10070	10071	10072	10073	10074	10075	10076	10077	10078	10079	10080	10081	10082	10083	10084	10085	10086	10087	10088	10089	10090	10091	10092	10093	10094	10095	10096	10097	10098	10099	100100	100101	100102	100103	100104	100105	100106	100107	100108	100109	100110	100111	100112	100113	100114	100115	100116	100117	100118	100119	100120	100121	100122	100123	100124	100125	100126	100127	100128	100129	100130	100131	100132	100133	100134	100135	100136	100137	100138	100139	100140	100141	100142	100143	100144	100145	100146	100147	100148	100149	100150	100151	100152	100153	100154	100155	100156	100157	100158	100159	100160	100161	100162	100163	100164	100165	100166	100167	100168	100169	100170	100171	100172	100173	1001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The production of fertilizer mixtures in the U. S. S. R.
N. D. Smirnov, *J. Chem. Ind. U.S.S.R.*, 17, No. 1
10-22 (1940) H. M. Lester

AMERICAN METALLURGICAL LITERATURE CLASSIFICATION

SMIRNOV, N.D.; YENIN, P.K., red.; PECHKOVSKAYA, T.V., tekhn.red.

[Mineral fertilizers] Mineral'nye udobreniya. Moskva, Ogiz-Sel'khozgiz, Gos.izd-vo sel'khoz.lit-ry, 1947. 38 p.
(Fertilizers and manures) (MIRA 13:9)

SHIRKOV, . . b.

Progressive cultivation procedures for raising crop yields; collection of articles.
Moskva, Gos. izd-vo sel'skhoz. liter., 1954. 335p. (55-15175)

55157.R3a54

USSR/Soil Science - Mineral Fertilizers.

J.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15332

Author : N.D. Smirnov

Inst :
Title : Improving the Werk of the Machine and Tractor Station
Agricultural Chemistry Laboratories.
(Ob uluchshenii raboty agrokhimlaboratoriya MTS).

Orig Pub : Udobreniye i urozhay, 1957, No 7, 44-49

Abstract : No abstract.

Card 1/1

LOBANOV, P.P.; BREZHNEV, D.D.; LYSENKO, T.D.; BORKOV, G.A.; OL'SHANSKIY, M.A.;
SINYAGIN, I.I.; ALEKSASHIN, V.A.; AVDONIN, N.S.; BEREZOVA, Ye.F.
SOKOLOV, N.S.; SOTNIKOV, V.P.; SMIRNOV, N.D.; KEDROV-ZIKHMAN, O.K.

Ivan Il'ich Samoilov; obituary. Dokl.Akad.sel'khoz. 23 no.11:
48 '58. (MIRA 11:12)
(Samoilov, Ivan Il'ich, 1900-1958)

SMIRNOV, Nikolay Dmitriyevich; ANTONOVA, M.M., red.; PROKOF'YEVA, L.N.,
tekhn.red.; GORENOVA, V.P., tekhn.red.

[Mineral fertilizers and their application] Mineral'nye udobreniya i ikh primenenie. Moskva, Gos.izd-vo sel'khoz.lit-ry,
1960. 142 p. (MIRA 13:7)
(Fertilizers and manures)

ORANSKIY, I.Ye.; SMIRNOV, N.F.

Technic of rapid ballistocardiographic registration. Biul. eksp.
biol. i med. 47 no.3:123-124 Mr '59. (MIEA 12:7)

1. Iz Sverdlovskogo nauchno-issledovatel'skogo instituta kurortologii
i fizioterapii (dir. - kandidat med. nauk N.V. Orlov, nauchnyy rukovoditel'
doktor med. nauk D. G. Shefer). Predstavlena deystvitel'nym chlenom AMN
SSSR V. V. Parinym.

(BALLISTOCARDIOGRAPHY,
rapid registration (Rus))

SUKHANOV, A.A.; ORANSKIY, I.Ye.; SMIRNOV, N.F.; BOGOMOLOVA, Ye.K.

Capillary mercury-alkaline transducer with air-damping for the registration of acceleration ballistocardiograms. Biul. eksp. i biol. med. 50 no. 8:116-118 Ag '60. (MIRA 13:10)

1. Iz terapevticheskogo otdeleniya (zav. V.I. Korolev) i otdeleniya eksperimental'noy kurortologii (zav. S.I. Serov Sverdlovskogo nauchno-issledovatel'skogo instituta kurortologii i fizioterapii (dir. N.V. Orlov). Predstavlena deystv. chlenom AMN SSSR V.V. Parinym.

(BALLISTOCARDIOGRAPHY—EQUIPMENT AND SUPPLIES)

SMIRNOV, N.F.

Stratigraphy of Permian sediments in the lower Kotuy Valley.
Trudy VNIGRI no.190:454-457 '62. (MIRA 16:1)
(Kotuy Valley--Geology, Stratigraphic)

SMIRNOV, N. G.

USSR/Engineering - Machining Practice

Card 1/1

Author : Smirnov, N. G.

Title : Machining spherical surfaces of large radius

Periodical : Stan. i Instr. 24/4, 35, April 1953

Abstract : The author describes the procedure in machining spherical surfaces and illustrates the steps with a drawing. He states that the old method did not give sufficient exactness to the surface due to irregular pressure of the master form and general lack of sensitivity of the whole arrangement. The defect is corrected by substituting a roller by an electrical contact.

Institution :

Submitted :

SOV/86-58-7-22/38

AUTHOR: Smirnov, N. G., Engr Lt Col, Candidate of Technical Sciences

TITLE: Rocket Engines. 2. Characteristics of Rocket Engines (Raketnyye dvigateli. 2. Kharakteristiki raketnykh dvigateley)

PERIODICAL: Vestnik vozdushnogo flota, Nr 7, 1958, pp 47-55 (USSR)

ABSTRACT: The author states that rocket engines, whether operated on liquid or solid fuel, have this in common: the principle which governs the plotting of their characteristics is identical, and they do not need atmospheric air. Having given the formulas of absolute thrust and of the weight fuel consumption per second by which a rocket engine is characterized, the author analyzes the engine's deficiency as high fuel consumption. He points out the three factors which cause high consumption: (1) a great quantity of energy must be spent on acceleration of working body--combustion products (2) a great quantity

Card 1/2

KAZANDZHAN, Pogost Karapetovich; KUZNETSOV, Andrey Vasil'yevich; NECHAYEV, Yu.N., doktor tekhn.nauk, retsenzent; SMIRNOV, N.G., kand.tekhn.nauk, retsenzent; KALASHNIK, G.I., inzh.-podpolkovnik, red.; SOLOMONIK, R.L., tekhn.red.

[Propeller turbines; characteristics of performance and operation]
Turbovintovye dvigateli; rabochii protsess i ekspluatatsionnye
kharakteristiki. Moskva, Voen.izd-vo M-va obor.SSSR, 1961. 263 p.
(MIRA 14:6)

(Gas turbines)

NEMKOVSKIY, Semen Petrovich; SHIRNOV, M.G., inzh., retsenzent;
VERBITSKAYA, Ye.M., red.

[Equipment for mechanical preparation of cotton fabrics for
printing] Oborudovanie dlja mekhanicheskoi podgotovki khlop-
chatobumazhnykh tkanej k pechataniu. Moskva, Legkaia in-
dustriia, 1965. 31 p. (MIRA 18:3)

5(4) 21(10)

SOV/76-33-9-24/37

AUTHORS: Smirnov, N. G., Uspenskiy, K. A.

TITLE: Experimental Determination of the Weakening Coefficients of
 γ -Radiation in Cylindrical Emitters

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 9,
pp 2036 - 2039 (USSR)

ABSTRACT: The determination of the radiation dose (CR) of cylindrical liquid- γ -emitters used in physico-chemical laboratories is difficult since there are no data available in publications on the self-scattering of γ -quanta in emitters (E). The weakening coefficient (WC) in cylindrical (E) was determined by experiment. Further, the (CR) of (E) with various radii (6-20 cm), but constant total activity was measured, the (E) being celluloid cylinders filled with Co⁶⁰ solution (Fig 1). Measurements were made in a γ -roentgenometer within the range 0.001-50 r/h. The results (Fig 2) show that under the given conditions (CR) drops as the (E)-radius increases. It followed from a comparison of the resultant values of (WC) with the values of the coefficients of selfabsorption which had been obtained by Dixon (Ref 5) (Table) that neglection of the self-scattering in cylindrical (E) leads to a considerable reduction of the (CR)-values. Besides, it resulted that (WC) does not depend on the distance from the axis of the cylindrical

Card 1/2

SMIRNOV, N.I. podpolkovnik meditsinskoy sluzhby

Portable incubator for the field bacteriological laboratory.
Voen.-med. zhur. no.9:66-68 S '55. (MLRA 9:9)
(INCUBATORS)

S/137/62/000/001/214/237
A154/A101

AUTHOR: Smirnov, N. I.

TITLE: The design of mechanized units for heat-treating and cleaning
chill castings

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 101, abstract 11726
(V sb. "Polucheniye izdeliy iz zhidk. met. suskoren. kristalli-
zatsiyey". Moskva-Kiyev, Mashgiz, 1961, 88 - 94)

TEXT: A description is given of a mechanized installation for annealing
tractor-plough braces cast from high-strength cast-iron. The installation con-
sists of an electrical salt bath; an electric conveyor furnace and a chamber for
cooling the parts and washing the salt off them. Loading, conveying of the parts
through the bath, delivering them from out of the bath and transferring them to
the furnace is accomplished by means of automatic hydraulic devices; the parts
are conveyed through the furnace and the cooling chamber on a conveyor. The
productivity of the installation is 50 braces per hour, or 1,250 kg/hr. The an-
nealing time in the salt bath at 1,020 - 1,040°C is 25 min, and in the electric
furnace at 700°C - 50 min. ✓
T. Fedorova

[Abstracter's note: Complete translation]

Card 1/1

SMIRNOV, N.I.

SMIRNOV, N.I.; SHARAYEVA, K.M.

Apparatus for chlorinating water. Kons. i ov. prom. 13 no.1:10-11
Ja '58. (MIRA 11:2)

1. Degestanskiy konservnyy trest.
(Water--Chlorination)

SMIRNOV, N.I.

Calculations for planning preparatory processes in flax spinning.
Tekst.prom. 17 no.6:25-27 Je '57. (MLRA 10:?)

1. Glavnnyy inzhener Vologodskogo L'nokombinata.
(Spinning) (Flax)

YERMAKOV, V.I.; ZAGORETS, F.A.; SMINOV, N.I.

Study of solutions by high-frequency methods. Part 1. Zhur.
fiz. khim. 36 no. 6 1962 (MIRA 17:7)

1. Moskovskiy khimiko-tehnologicheskiy institut imeni Mendeleyeva.

ZAGORETS, P. A.; SMIRNOV, N. I.; YERMAKOV, V. I.

Investigation of solutions by high-frequency methods. Part 4:
Frequency of the measuring generator as dependent on the con-
ductance and dielectric constant of electrolyte solutions.
Zhur. fiz. khim. 36 no.12:2743-2748 D '62.

(MIRA 16:1)

1. Moskovskiy khimiko-tehnologicheskiy institut imeni Mendeleyeva.

(Electrolyte solutions)

AZIZYAN, A.G.; SMIRNOV, N.I.

Hydrodynamics of bubbling processes. Izv. AN Arm. SSR. Ser.
tekhn. nauk 17 no.6:53-58 '64. (MIRA 18:3)

1. Yerevanskiy politekhnicheskiy institut im. K. Marksya.

S/076/63/037/003/004/020
B101/B215

AUTHORS: Yermakov, V. I., Smirnov, N. I., and Zagorets, N. A. (Moscow)

TITLE: Study of solutions by high-frequency methods. VI.
Dispersion effects in electrolyte solutions in a wide
frequency range of the electromagnetic field

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, no. 3, 1963, 544-552

TEXT: A non-resonance circuit (Fig. 4) is suggested for measuring the relaxation effects in electrolytes. Measurements were conducted by using the equations $U_3 = \dot{U}kY_{br}/Y_{sol}$ or $Y_{sol} = \dot{U}k\dot{U}_{br}/\dot{U}_3$, where $k = k_2 k_I/k_1 k_{II}$, \dot{U} = voltage, Y = conductivity, the index br being related to the resistance box of the bridge and sol to the electrolyte solution. Measurements with frequencies up to 200 Mc/sec yielded a stepwise course of the curve electroconductivity versus concentration for KCl , $MgCl_2$, and $AlCl_3$. This is explained by steric hindrance effects on reformation of the hydrate complexes with a certain lifetime. Shortlived hydrates are found at Card 1/2

S/076/63/037/003/004/020
B101/B215

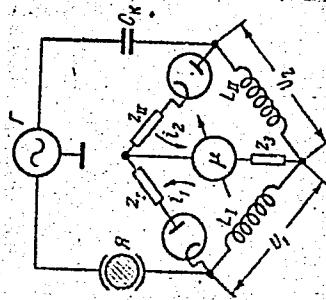
Study of solutions by high-...

frequencies above 10^8 cps, whereas below 1 Mc/sec, only the most stable hydrate shells are observed. There are 8 figures.

ASSOCIATION: Moskovskiy khimiko-tehnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: November 5, 1961

Fig. 4. Principle of a z-meter circuit with high-frequency compensation; legend: \varnothing = cell; Γ = generator.



Card 2/2

VOROB'YEV, A.G. (Leningrad); SMIRNOV, N.I. (Leningrad)

Montgolfiers under present conditions. Priroda 52 no.9:107-
108 '63. (MIRA 16:11)

SMIRNOV, Nikolay Ivanovich; MARUNOVA, I.B., red.; YAZLOVSKAYA,
E.Sh., tekhn. red.

[In the orbit of friendship] Po orbite druzhby. Moskva, Izd-
vo vostochnoi lit-ru, 1963. 53 p. (MIRA 16:7)
(Gagarin, IUrii Alekseevich, 1934-)
(Asia, Southeastern--Description and travel)

SOV/120-59-2-19/50

AUTHORS: Karandeyev, K.B., Mizyuk, M.G. and Smirnov, N.I.

TITLE: A Transistorized D.C. Millivoltmeter (Millivol'tmetr postoyannogo toka na poluprovodnikovykh triodakh)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 2,
pp 65-67 (USSR)

ABSTRACT: The specification to which this instrument was designed called for a direct-reading, battery-driven meter with an accuracy not less than 2.5%, which covered the range from a few mV's up to 1 V with an input resistance not lower than 1 megohm. The instrument was to be small and light and to work over the range -20 to +60 °C. The best circuit for this purpose is the so-called self compensating circuit of Fig 1; this is described with design equations in Ref 2. The essential block diagram of the circuit may be described as a chopper-stabilized D.C. amplifier with high A.C. gain and overall D.C. feedback. The instrument is very bulky if valves are used and transistors are therefore preferred. The mechanical chopper works at 200 cycles per sec and the upper limit of the A.C. amplifier has been chosen as 20 kc/s. The first transistor is a type P6D which is

Card 1/3

A Transistorized D.C. Millivoltmeter

SOV/120-59-2-19/50

chosen for its low noise properties and the rest of the amplifier consists of three P6A's in cascade. The base currents in these stages are stabilised by thermistors. The basic circuit of a compensated stage is that of Fig 3 while Fig 4 shows the behaviour of the circuit over the required temperature range. The dotted curve on this graph shows the uncompensated performance. Fig 5 shows the complete circuit of the instrument including component values. The instrument errors for three inputs 1 mv, 3 mv, and 10 mv, are shown in Figs 6 and 7 for variations in supply voltage and operating temperature respectively. The input resistance is 4 megohms, the zero drift is not worse than 20 μ V per hour, the maximum sensitivity is 10 μ V, the current consumption is 10 mA, the dimensions of the instrument are 235 x 155 x 115 mm, and its weight is 3 kg.

Card
2/3

PLACE I BOOK EXPEDITION

507/1034

Polyvysokotekhnicheskaya Promst. 1 (in print) 1950; Soviet state, typ. 4,
 (Semiconductor Devices and Their Applications). Collection of Articles, No. 4.)
 Moscow, Litz.-vo Sovetskoy radii, 1950. 421 p. Errata slip inserted.
 No. of copies printed not given.

Ed. (Title pag.): Ya. A. Fedotov; Ed.: I. M. Volkov; Tech. Ed.:
 A. A. Sushkov; Editorial Board: Ya. A. Fedotov (Chairman), N. A. Borodkin,
 L. G. Bergelson, A. M. Emelyanov, Ye. I. Galperin (Deputy Chair., Ed.), Ya. A.
 Kostomarov, S. P. Kuzov, A. V. Krashil'nyy, A. A. Malitskii, V. I. Ptitsyn,
 V. V. Rakhlin, N. L. Reznik, and I. P. Stepanenko.

PURPOSE: This collection of articles is for technicians and scientists working in
 the field of semiconductors.

CONTENTS: These articles cover the following problems: physical processes occurring in
 semiconductor diodes and transistors; transistor parameters, and methods and
 instruments for measuring them; special features of transistor operation in
 amplifying and oscillating circuits; and circuits and systems utilizing transis-
 tor oscillators. Several articles mention personalities. References accompany most
 articles.

Ed. (Title pag.): Yu. N. Tsvetkov, N. G. Kostomarov, Methods
 of Designing Multivibrator Solid Transistors with Standardized Temperature
 Amplifiers

The method proposed uses static transistor characteristics

obtained under various temperatures.

Kazakov, Ye. F., and Yu. I. Semenov. Diagram of Phase Automatic Frequency
 Control Using Semiconductor Components

The circuit is examined, selection of components considered, and
 some experimental results are given.

Nel'yu, G. B. Analysis of the Operation of a Transistorized Square-Wave
 Voltage Oscillator

The article examines the operating principle of a push-pull block-
 ing oscillator using transistor triodes with a saturable transformer.

Zakharov, Yu. K. Use of Transistors for DC Conversion

This article contains experimental data on the use of transistors
 for dc conversion.

Chirkovets, O. I. Calculation of Rectilinear Search Current in a
 Transistorized Oscillator

The article describes the method of calculating the rectilinear
 search current of a vibration searching oscillator using transistors.
 Specifications are given for deflecting coils of various types
 electron tubes.

Zabotin, Yu. I. Research on a Junction Transistor Blocking Oscillator

This article describes problems occurring during the formation
 of the pulse peak. Conditions of blocking oscillator self-excitation
 are examined and the formulae for determining pulse duration is
 derived. Processes in delay line blocking oscillators are analyzed
 and formulas are given for calculating delay line parameters.

Sosulin, I. A. Blocking-Oscillator Using Saturable Transistor Triode

Problems occurring in a blocking-oscillator using junction triode
 operating under saturation conditions are analyzed. The
 article demonstrates that transistor parameters have no
 substantial effect on pulse shape.

Rilov, V. I. Operation Analysis of a Symmetrical Multivibrator Using
 Junction Transistors

Basic ratios for design of multivibrators under various operating
 conditions are derived on the basis of a simplified multivibrator cir-
 cuit using a junction transistor.

Borovskiy, Iu. Z. Transistor Pulse Motors for the Intra-Superonic Pre-
 gency Field

Three types of pulse motor transistors are described.

Vasilev, V. P. Indication of the States of a Decade Transistor Counter
 by Means of Incandescent Lamp

A decade counter based entirely upon semiconductor devices is
 described.

Orishchenko, V. A. Development of a High-Speed Digital Computer
 Arithmetic Unit Using Junction Transistors

The unit, which uses transistors of the P-15 type, was successfully
 tested.

AVAILABLE: Library of Congress

1

SMIRNOV, N.I.

Thermal stability of a transistor amplifier with direct
coupling. Avtom.kont. i izm.tekh. no.5:94-96 '61. (MIRA 14:11)
(Transistor amplifiers)

BLAZHKEVICH, B.I.; VERKHOTSEV, V.S.; VOROBKEVICH, V.Yu.; RAKO, M.A.;
SINITSKIY, L.A.; SMIRNOV, N.I.; SHKOL'NYY, V.A.

Magnetic semiconductor millivoltmeter for measuring the
electromotive force of thermocouples. Avtom.kont. i izm.
tekhn. no.5:142-148 '61. (MIRA 14:11)
(Millivoltmeter)

SMIRNOV, N.I.

Parameters of complex electronic circuits and their use in the analysis of such circuits. Radiotekhnika 16 no.1:67-74 Ja '61.
(MIRA 14:2)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radio-
tekhniki i elektrosvyazi im. A.S. Popova.
(Electronic circuits)

SMIRNOV, N.I.

Wide-band transistor amplifiers. Elektrosviaz' 16 no.5:74-75
My '62.
(Transistor amplifiers) (MIRA 15:5)

SMIRNOV, N.I.

A transistor amplifier for measuring devices of automatic control systems. Avtom.kont.i izm.tekh. no.6:169-171 '62.

(MIRA 16:2)

(Transistor amplifiers) (Electric measurements)
(Automatic control)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651530003-7

SMIRNOV, N.I.

Correction of errors. Radiotekhnika 18 no.10:21 O '63.
(MIRA 16:12)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651530003-7"

DAVYDOW, Thomas - Director (initials) : AAKAN, V.M., Captain 1st class, Rango

Recommending applying a new method. Ref. stor. 47 no.7 54-60
JL 184. (MIA 12-7)

GRIGOR'YEV, V.B.; SMIRNOV, N.I.

Theory of separation of liquid mixtures in a thermogravitational column. Zhur. prikl. khim. 38 no. 10:2347-2349
0 '65. (MIRA 18:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
Submitted Febr. 30, 1964.

GRIGOR'YEV, V.B.; GRIGOR'YEVA, L.A.; REYKHSEL'D, V.O.; MAKOVETSKIY, K.L.;
SMIRNOV, N.I.

Separation of polymer homologous mixtures in a thermo-
gravitation column. Zhur.prikl.khim. 38 no.11:2592-2595
N '65. (MIRA 18:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
Submitted January 17, 1964.

SMIRNOV, N. I. ed.

Piatiletii plan radiofikatsii SSSR. [The five-year plan of radio development in the USSR]. Moskva, Izd-vo NKPT, 1931. 22 p.

DLC: HE7055.S6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

SMIRNOV, N. I.

PA 159T106

USSR/Radio - Vacuum Tubes

A Amplifiers

Feb 50

"Use of Two-Volt Series Receiving Amplifying
Tubes as Electrometric Tubes," N. I. Smirnov,
6 pp

"Zavod Lab" Vol XVI, No 2

Describes operation of S0-257 and SB-258 in
subject application as successful. S0-241
and SB-242 may also be used with reduced
electrode voltages, although less effectively.
Such use is possible for tubes described, in
all cases permitting operation with grid

159T106

USSR/Radio - Vacuum Tubes (Contd)

Feb 50

currents of 10-14 a or better. Steepness of
characteristic of these tubes is two to three
times greater than that of electrometric tubes
and acorn (954 and 959 specifically) tubes used
as electrometric tubes.

159T106

SMIRNOV, N.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651530003-7"

Electric Wire

Sheathing for electric wires.
Radio No. 9, 1952.

1. SMIRNOV, N.
2. USSR (600)
4. Amplifiers, Vacuum-Tube
7. One defect in the KZVT amplifier and its elimination, Kinomekhanik, No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SMIRNOV, N.

Electronic thermometer. Radio no.9:55-56 S'55. (MLRA 8:11)
(Thermometers)

107-57-2-37/56

AUTHOR: Smirnov, N.

TITLE: A Device for Measuring Pulse-Wave Velocity. Exhibited at the 13th
Radio Show
(Apparat dlya izmereniya skorosti pul'sovoy volny. Eksponat XIII
radio vystavki)

PERIODICAL: Radio, 1957, Nr 2, pp 36-38 (USSR)

ABSTRACT: Velocity of propagation of the pulse wave is one of the most important characteristics of man's cardiovascular system. An electronic device for measuring this velocity comprises two amplifier channels, detecting circuits with polarized relays, an electronic timer, and a power-supply unit. The signal formed by an amplified cardiac biocurrent is used to start the timer. The signal from a piezoelectric pickup, responsive to the artery pulse, is used to stop the timer. Two electrodes placed over the hands of the man serve as a cardiac biopotential source. A piezoelectric pickup placed over the wrist reveals the arterial pulse wave. Three 6N9S, two 6N8S, one 6Kh6S, one 5Ts4S, and one 6E5S tubes are used in the device. Type SG-4S stabilivolt is used to stabilize the DC supply voltage. Two RP-55 polarized relays are used to start and stop

Card 1/2

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001651530003-7"

107-57-2-37/56

A Device for Measuring Pulse-Wave Velocity

the electronic timer. The device is mounted on an angle chassis and is housed by a metal cabinet 370 x 210 x 185 mm. A simplified circuit diagram, parts data, construction details for the piezopickup, and general front and rear views of the device are supplied. There are 6 figures in the article.

AVAILABLE: Library of Congress

Card 2/2

S/194/61/000/006/069/077
D201/D302

AUTHOR:

Smirnov, N.I.

TITLE:

Non-linear distortions due to amplitude asymmetry
of the modulation spectrum of receiving installa-
tions

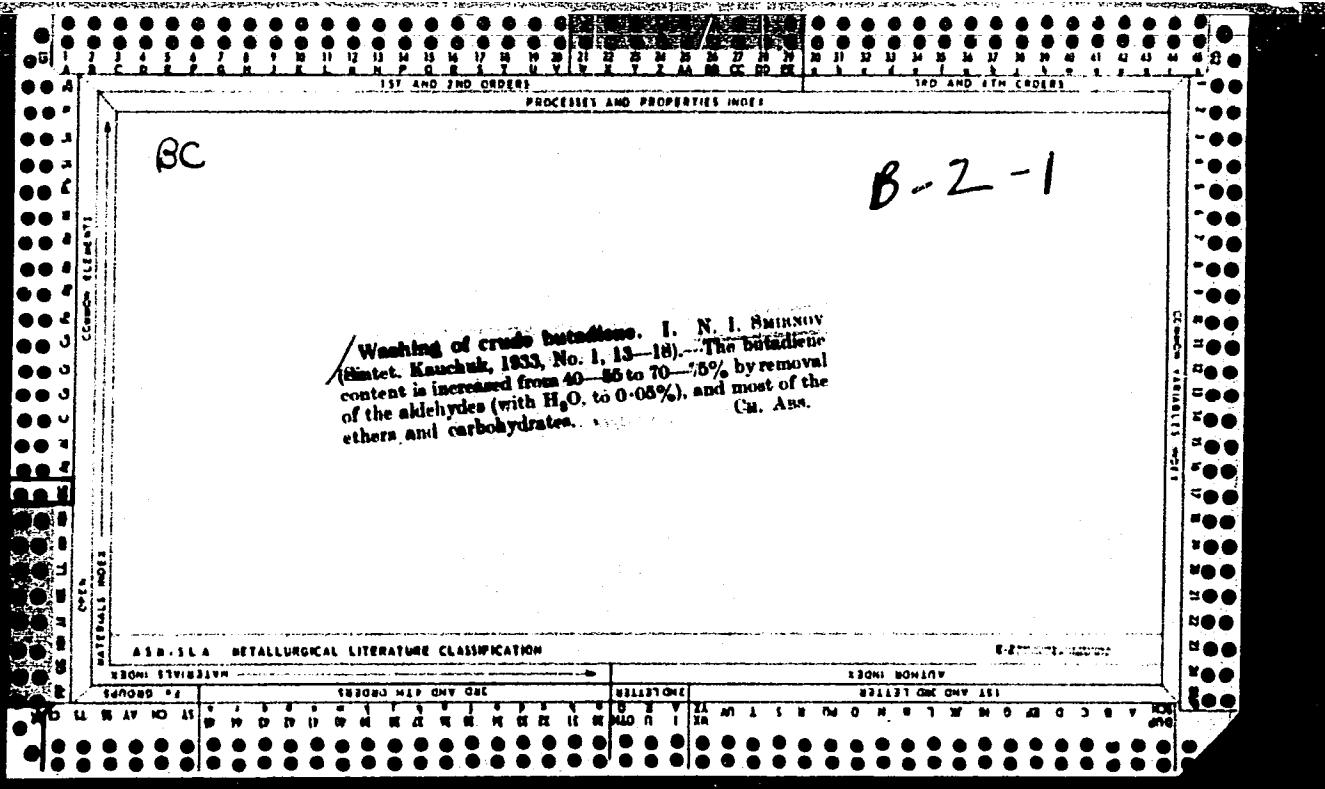
PERIODICAL:

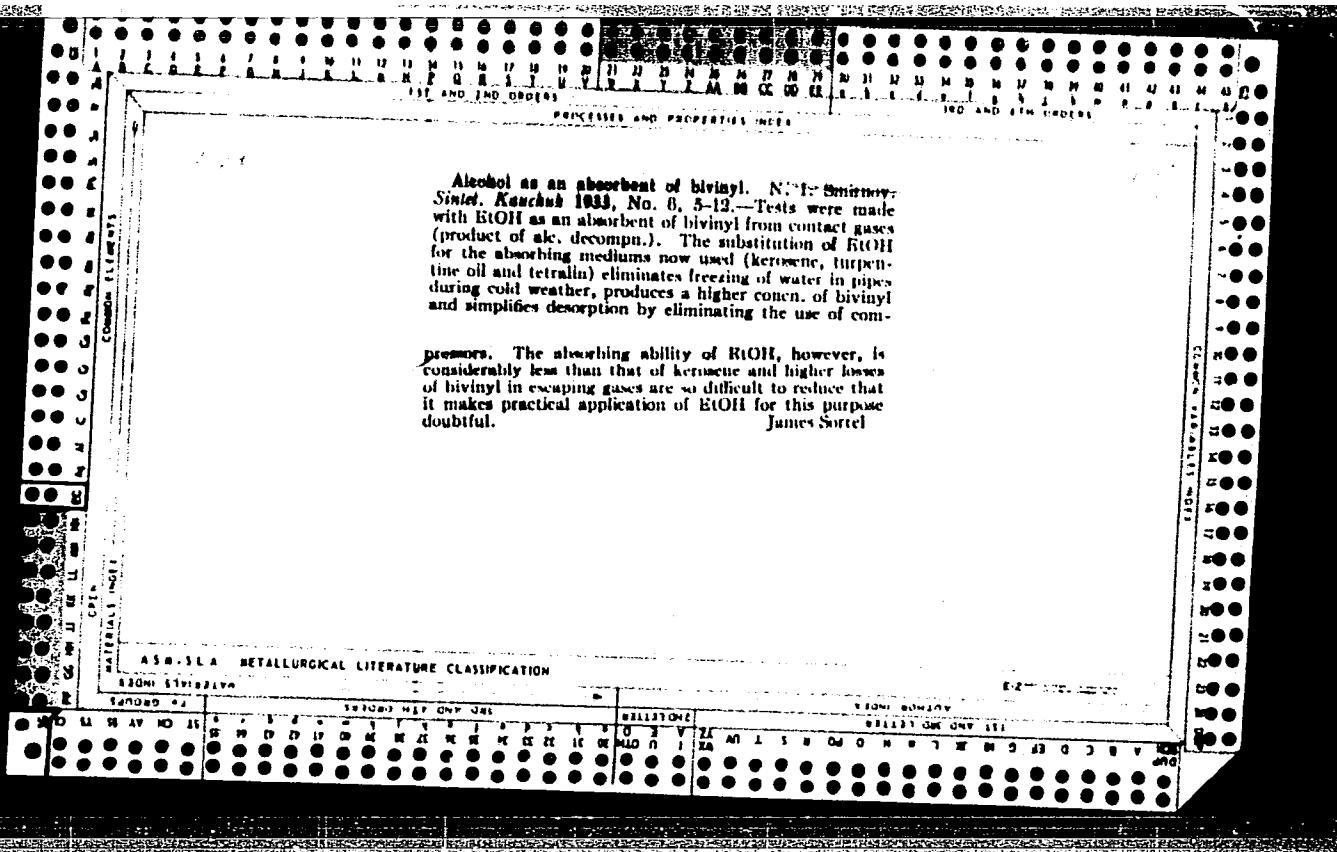
Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 6, 1961, 11, abstract 6 K70 (V sb. Avtomat. kon-
trol' i izmerit. tekhn. no. 4, Kiyev, AN USSR, 1960,
90-97)

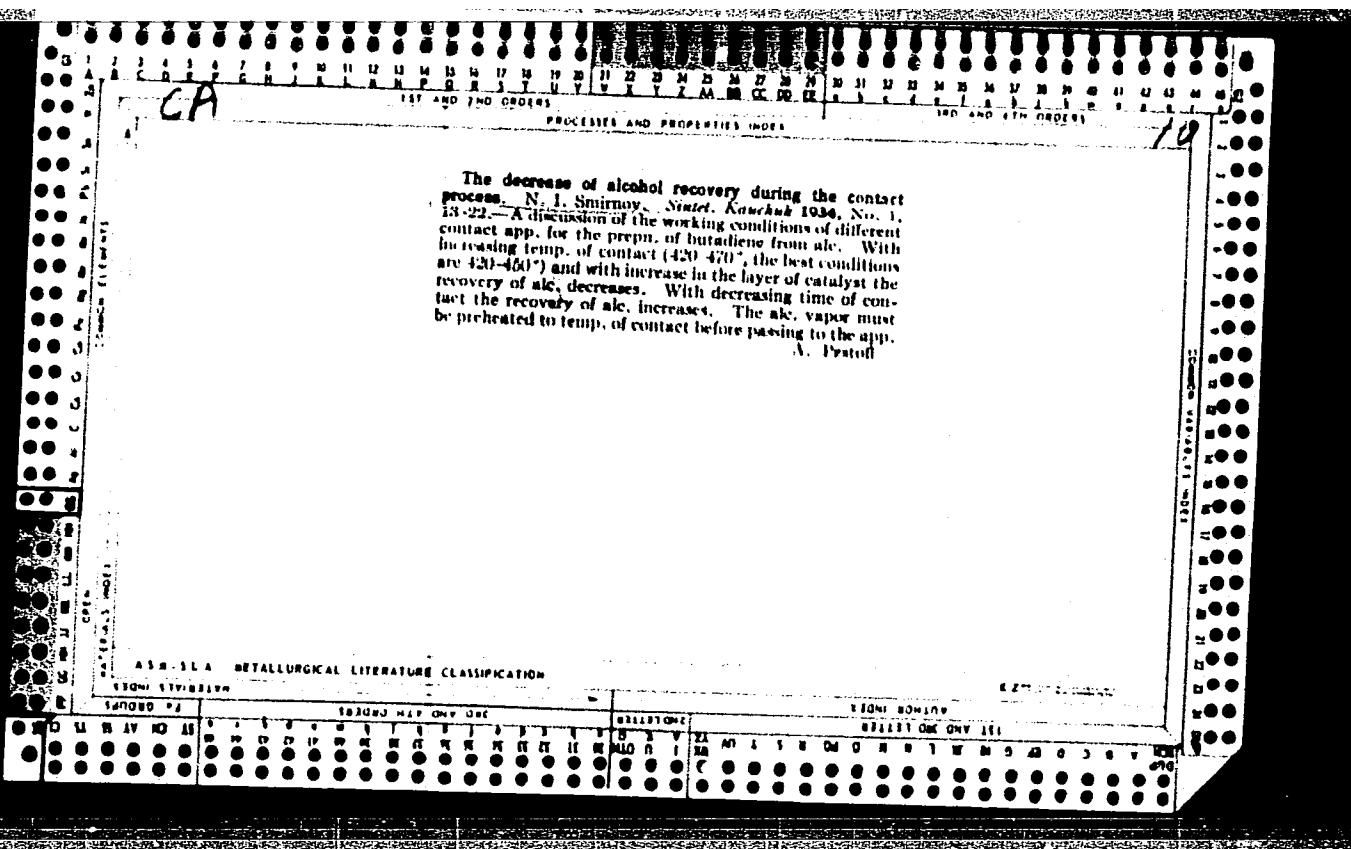
TEXT: The effect is analyzed on the non-linear distortions of the
asymmetry of the modulated voltage spectrum resulting from the detu-
ning of receiver circuits. A formula is derived for the 2nd har-
monic non-linear distortion factor

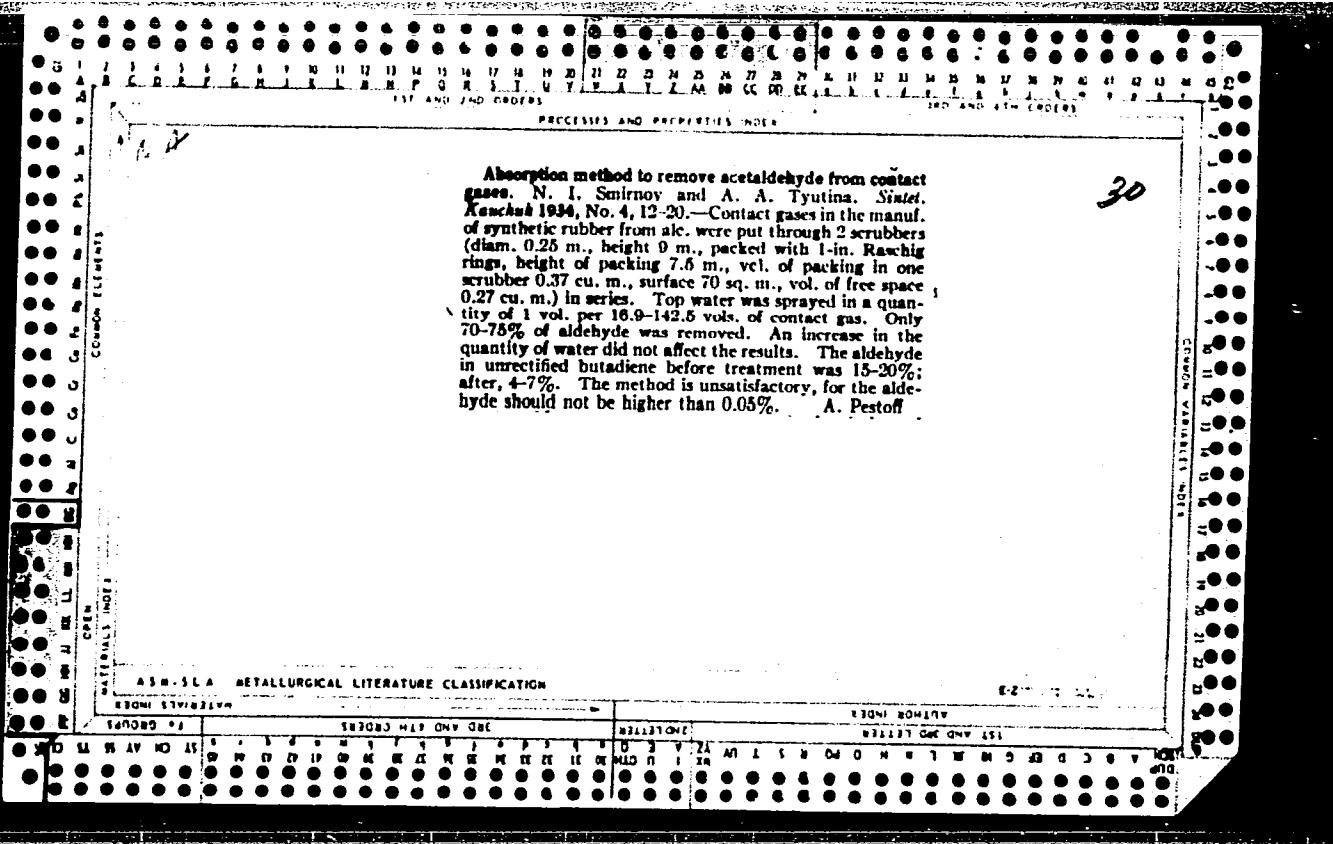
$$H = \frac{m}{8(m_H + m_B)} \left(\frac{1}{\sqrt{1 + \xi_H^2}} - \frac{1}{\sqrt{1 + \xi_B^2}} \right)^2$$

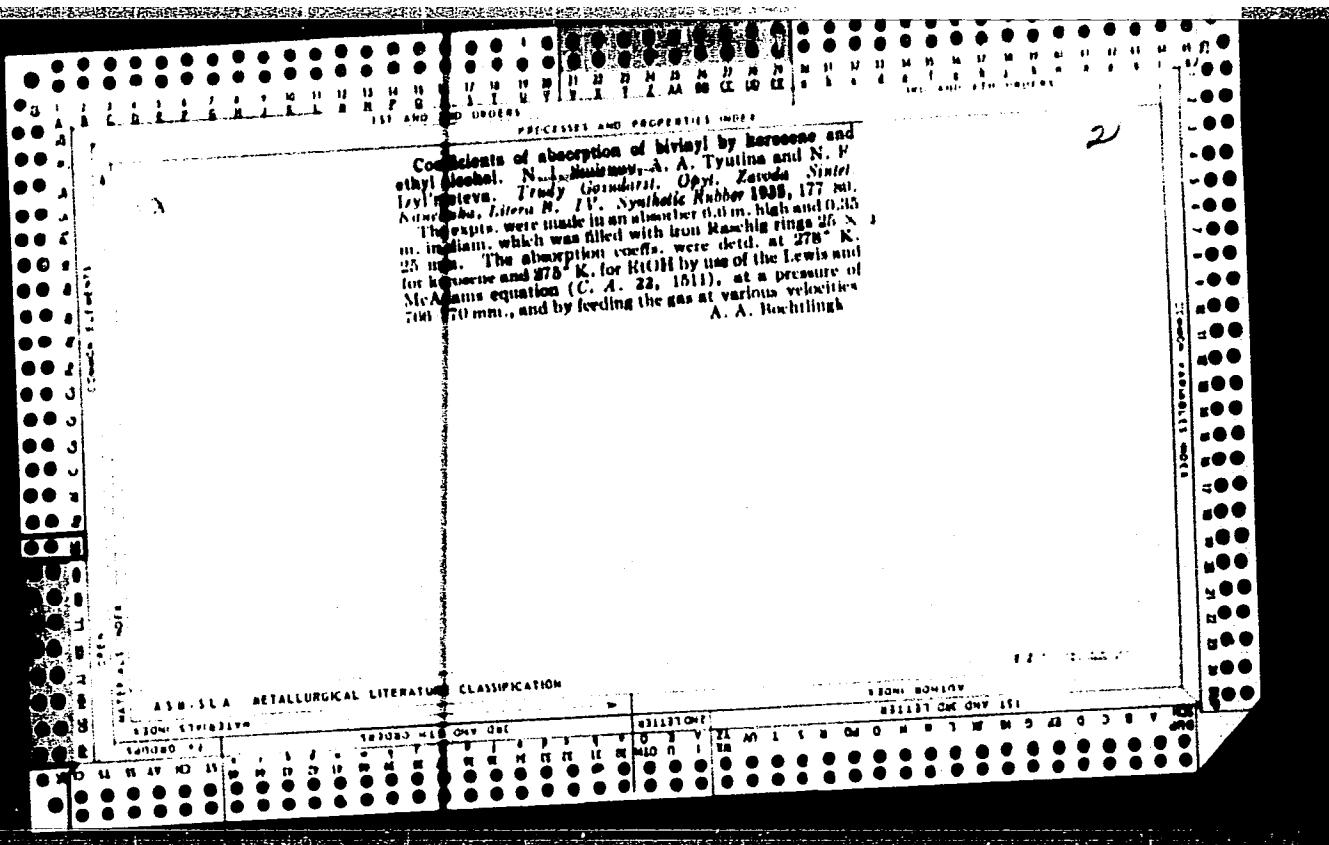
Card 1/2





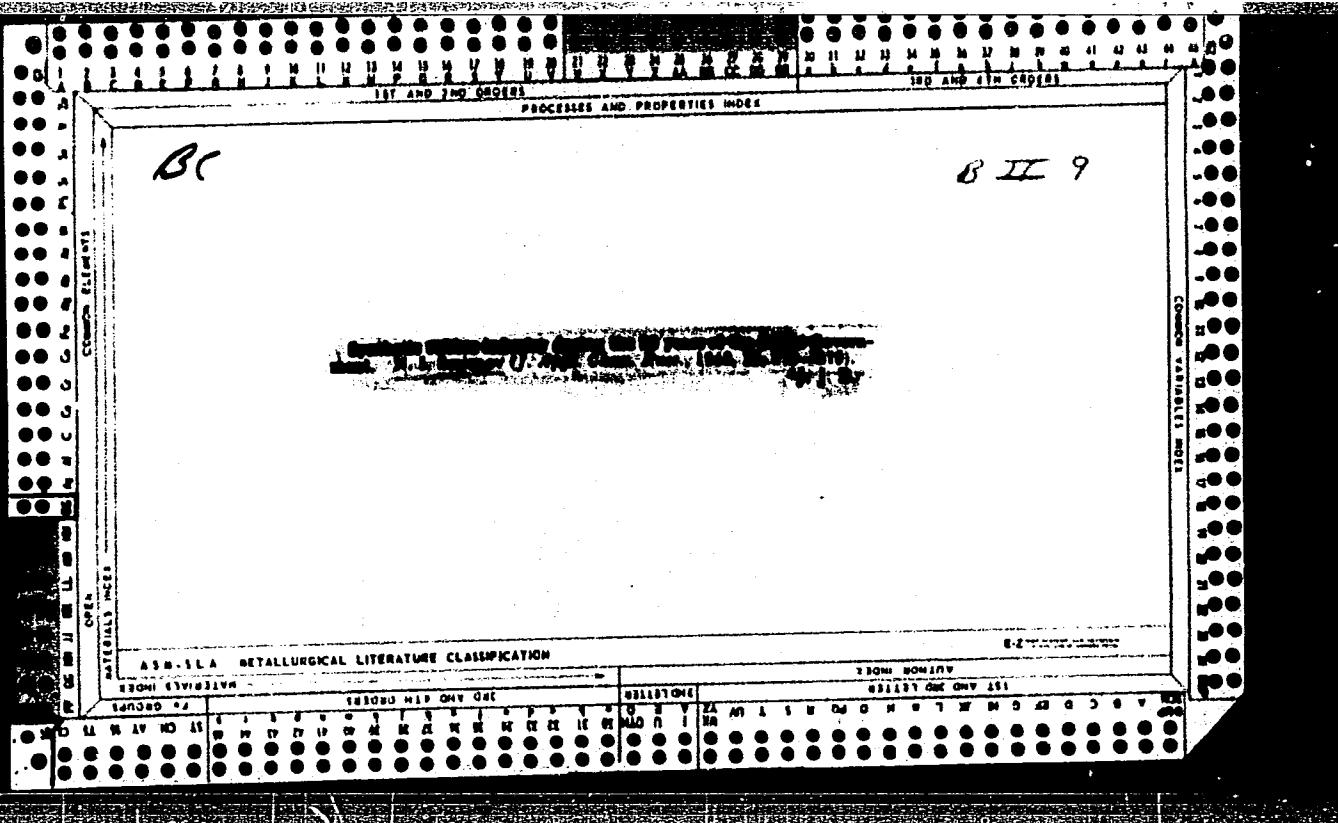






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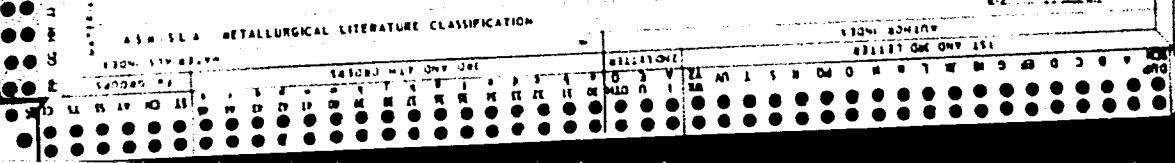
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APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651530003-7"

Varnish base. N. I. Smirnov, G. M. Budorin, and A. A. Bogdanov. U.S.S.R. 61,090, Feb. 28, 1935. The alkalolysis product of linseed oil and a mixt. of phthalic anhydride and linseed oil fat acids is heated with glycerol. The phthalic anhydride may be added in 2 steps. The product has a low acid no. and is sol. in kerosene. It is particularly suitable for enameling wire. M. Hirsch



SMIRNOV, N. I.

Smirnov, N. I. and Polinta, S. E., The dropping of a liquid into the medium of another liquid or into a gaseous medium. P. 1137.

On the basis of the theory of dimensions the relation is established between the values which determine the process of formation of drops of liquid during its outflow into another liquid medium. On the basis of experimental data a formula is offered which expresses this relation for the systems in a wide interval of specific gravities, surface tensions and for a wide interval of diameters of tubes through which the outflow occurs.

The Leningrad Technological Institute
May 14, 1948.

SO: Journal of Applied Chemistry (USSR) 21, No. 11 (1948).

CA

2

Relative velocities of motion of drops. N. L. Sviridov and V. L. Ruban, *Zhur. Prakt. Khim.* (J. Applied Chem.) 22, 1068-77 (1939).—The relation betw. the velocity of rise of liquid drops or gas bubbles in a liquid is expressed by the similitude criteria. Re = Reynolds' no., Ar = Archimedes simplex = $(\gamma_s - \gamma_l)/\gamma_l$ (where γ is the sp. wt. in kg./cu. m., resp. s = drop and l = the medium), α = viscosity, $\Gamma = d/D$ (where d and D are the diam. of the drop and the vessel, resp.). The form of the function $f(Re, Ar, (\alpha_s/\alpha_l), \Gamma) = 0$ is detd. by exptl. measurements of the rate of rise of droplets of CCl_4 , $EtBr$, C_6H_5Cl , $PhNO_2$, $PhNH_2$, $PhNMe_2$, $CaCO_3$, toluene, iso-AmOH, and C_6H_6 in H_2O ; droplets of H_2O in $CaCO_3$ and air bubbles in H_2O . Treatment of the exptl. data reveals the constancy of $Re\Gamma^2 \cdot Ar^{-0.8} (\alpha_s/\alpha_l)^{-1}$, i.e. one has $Re = a Ar^{0.8} (\alpha_s/\alpha_l)^{1/2}$. For the const. a , the exptl. data yield the relation $a = 0.61[(\gamma_s - \gamma_l)/\gamma_l + 0.21]^{0.8} + 1.25$; consequently, the final expression is $Re = 10.8[(\gamma_s - \gamma_l)/\gamma_l + 0.21]^{0.8} + 1.25 Ar (\alpha_s/\alpha_l)^{1/2}$. In the case of a falling drop, Ar is neg., and Re is neg. When the definitions of the criteria are substituted, then the relative velocity $w = ad^{0.8}(\gamma_l/\gamma_s)[(\gamma_s - \gamma_l)/\gamma_l]^{1/2}$, i.e. in the investigated range of $Re(100-1000)w$ is proportional to the sq. root of the diam. of the drop. A somewhat unexpected result is the independence of w of the viscosities of either the drop or the medium. With Ar formulated $Ar = (d\gamma_s^2/\mu_s^2)[(\gamma_s - \gamma_l)/\gamma_l]$, the equation is written $Re = b Ar^{0.8} \Gamma^{-1}$, where from exptl. data $b = 1.4 - 0.257[(\gamma_s - \gamma_l)/\gamma_l] - 0.13^{0.8}$. The dimensionless factors a and b allow for deviations of the droplets from spherical shape. The general criterial equation is $Re = [1.4 - 0.257[(\gamma_s - \gamma_l)/\gamma_l] - 0.13^{0.8}] Ar^{0.8} \Gamma^{-1}$. N. Thon

SMIRNOV, N. I.

7051
THE DEPENDENCE OF THE VELOCITY OF DROPS ON
THE VELOCITY OF THE MEDIUM. (Skorost' Dvizheniya
Kropel' V Zavisimosti Ot Skorosti Dvizheniya Sredy). N. I.
Smirnov and V. L. Ruban. Translated by M. Goyer from
Zaur. Priklad. Khim. 22, 1211-13 (1949). 6p. (RAE-Trans-

371; AEC-tr-1405)

For drops moving through a fluid in motion the deter-
mination of the velocity relative to the walls of the tube is
of considerable interest in ascertaining the moment when
the tube becomes choked, i.e., the movement when the
velocity is reduced to zero owing to the high velocity of the
medium. (auth)

3

SMIRNOV, N. and PIOTROVSKIY, K.

"S. V. Lebedev's Work on the Synthesis of Rubber", Zhurnal Friklandnoy Khimii,
Vol. 22, No. 9, 1949.

SO: Translation W-204/50, 17 Jan 1950.

172715
USSR/Chemistry (Physical) - Motion of
Droplets Jan 51

"Relative Velocity of Motion of Droplets in Transi-
tional Region," N. I. Smirnov, V. L. Ruban, Chair of
Technol of Synthetic Rubber, Leningrad Technol Inst
lmeni Lensovet

"Zhur Prik Khim" Vol XXIV, No 1, pp 47-55

Exam relative velocity of motion of drops in fluid
medium for Reynolds No 2-270 (transitional region)
without mass exchange between drops and medium. Estab-
lished 2 forms of basic eq for this velocity. Showed
it directly proportional to diam of drop and dependent

172715
USSR/Chemistry (Physical) - Motion of
Droplets (Contd) Jan 51

on viscosity not of drop substance, only of medium.
Derived: factor accounting for deviation of drop
shape from spherical form; eq for drop motion; eq for
diam of natural velocity in moving medium; and eq for
diam of moment of choking (moment when velocity of
motion of drops equals 0 relative to medium due to
high speed of motion of medium.

USSR/Chemistry (Physical) - Suspension of Jan 51
Particles.

"Motion of a Current Through a Layer of Solid
Particles," N. I. Smirnov, Lu De Ep, Chair of
Technol of Synthetic Rubber, Leningrad Technol Inst
ment Lensoviet

"Zhur Prik Khim" Vol XXIV, No 1, pp 56-60

Analyzed layer of free-flowing particles suspended
in fluid as complex phenomenon consisting of 3
elementary processes: flow of current upward
through layer; increase of height of layer due to
increased distance between particles; maintenance of
higher level. Found basic eq for each process for

172T16

USSR/Chemistry (Physical) - Suspension of Jan 51
Particles (Contd)

spherical particles and derived general eq for whole
phenomenon, finding unknown elements by expt. In-
dicated possibility for extension of method to
suspended layers of particles of any form.

172T16

SMIRNOV, N. I.

USSR/Chemistry - Suspension

Apr 51

"Suspended Layers of Particles of Various Forms,"
N. I. Smirnov, Li De Ep, Chair of Synthetic
Rubber Tech, Leningrad Tech Inst imeni Lensoviet.

"Zhur Prik Khim" Vol XXIV, No 4, p 439

Final form of criterial eq of hydrodynamics of
suspended layers for particles of any form in
turbulent flow flds indicates that value of
simplex of form can be calcd from simple ratio
between surface of sphere equal in vol to sus-
pended particle and surface of particle in
question.

182T47

SMIRNOV N.I.

NIKOL'SKIY, B.P., redaktor; DOLGOV, B.N., redaktor; ZAL'KIND, Yu.S.
[deceased] redaktor; MORACHEVSKIY, Yu.V., redaktor; POZIN, M.Ye.,
redaktor; PTITSYN, B.V., redaktor. SMIRNOV, N.I., redaktor.

[The chemist's handbook] Spravochnik khimika. Vol. 3. [Chemical equilibrium and kinetics. Solutions. Electrochemistry. Analytical and technical chemistry] Khimicheskoe ravenye i kinetika. Rastvory. Elektrokhimiia. Analiticheskaya i tekhnicheskaya khimiia. Leningrad, Gos. nauchno-tekhn. izd-vo khim. lit-ry. 1952. 1190 p. [Microfilm]
(Chemistry--Handbooks, manuals, etc.) (MLRA 7:10)

SMIRNOV, N. I.

SMIRNOV, N. I. Automatic Condensate Traps (Avtomaticheskiye Kondensatootvodchiki),
pp. 9-11

Two types of traps are described. The traps are of diaphragm and thermostat types
of the author's patented design. (Drawings).

SO: PROMYSHLENNAYA ENERGETIKA, No. 11, Nov. 1952, Moscow (1613006)

SMIRNOV, N. I.
General And
Physical Chemistry

5
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CL

(F-27-54)

Concerning S. S. Voyutskii's and M. A. Zaltseva's article
"Mutual solubility and its significance in emulsion poly-
merization," N. I. Smirnov and N. A. Fermor. *Uspeshki
Khim.* 21, 368 (1952). Criticism of V. and Z. (C.A. 41,
6006d) in respect to arithmetical errors which give erroneous
impressions of variation of reaction rates with temp. changes.
G. M. Kosolapoff

1. SMIRNOV, N. I.; RUBAN, V. I.
2. USSR (600)
4. Drops
7. Rate of motion of drops in a laminar medium, Zhur. prikl. khim., 25, No. 12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, March, 1953. Unclassified.

SHIRNOV, N.L.

*Nov
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800*

Movement of bodies in a medium. VII. Velocity of movement of drops in a medium in the laminae region. N. I. Shirnov and V. L. Ruhau (Lensoviet Inst. Technol., Leningrad); J. Appl. Chem. U.S.S.R. 25, 1357-61 (1952) (English translation); Zhur. Priklad. Khim. 25, 1305-9 (1952); cf. C.A. 47, 370f; 380dc.—Drops of strictly spherical shape, moving in a limitless medium, floating up or settling down in the laminae region of another immiscible liquid, acquire a velocity of $w = d^4(\rho_m - \rho_s)g 3(\mu_m + \mu_s)/18\mu_s(2\rho_m + 3\mu_s)$, where w is the rate of movement, d is the drop diam., ρ_m is the d. of the medium, ρ_s is the d. of the drop, g is the gravitational acceleration, μ_m is the viscosity of the medium, and μ_s is the viscosity of the drop substance. This equation must be modified for nonspherical drops (these form when the difference between the d.s. of medium and drop is great) and for movement in a glass-tube column of 13.5 mm. diam. as used in these expts., in which were studied cylinder-oil drops in sugar soln., benzene drops in sugar soln., sugar-soln. drops in cylinder oil, toluene drops in sugar soln., nitrobenzene drops in sugar soln., water drops in cylinder oil, dichloroethane drops in sugar soln., kerosine drops in sugar soln., air bubbles in water, air bubbles in aniline. The relation of drop velocity to sp. gr. is complex. The velocity is directly proportional to the drop diam. squared and inversely proportional to the viscosity of the medium; it is independent of the viscosity of the drop substance. Earlier investigations are cited.

Manfred Mannheimer

SMIRNOV, N. I.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

3
①
Syntheses of butadiene from acetylene. N. I. Smirnov.
Chem. Prámy 3, 91-9, 135-41 (1953). Reprint from book
by S. Synthetické haužky, recent edition by STNL (Czech-
oslovakia), pp. 132-160. Technology of the old syn-
thesis by Kucherov (1881) and Oströmühlenskij (1915),
which was developed later on by the German I.G., is dis-
cussed. 20 references. F. J. Hendel — min

SMIRNOV, N. I.

U S S R .

✓ Movement of bodies in a medium. VIII. Droplet motion in media. N. I. Smirnov and V. L. Kulan. J. Appl. Chem. U.S.S.R. 26, no. 8 (1953) (Engl. translation); Zhur. Priklad. Khim. 26, 110-13; cf. C.A. 49, 992f.— Math. Equations for the rate of motion of drops and air bubbles in liquid media in the turbulent, transition, and laminar flow regions require generalization because of the variation in the equation const., the use of both Galileo and Archimedes criteria, and the use of 2 criteria of geometric similarity. The earlier exptl. data were subjected to analysis, leading to expressions for the Reynolds nos. (Re) applicable from 0.001 to 1000. The new equations for the turbulent, transition, and laminar flow regions are the following: $Re = 1.3 \frac{G_a^{0.5}(\gamma_m - \gamma_s)^{0.5}}{\mu^{0.5} d^{0.5} \Gamma^{-1}}$, $Re = 0.05 \frac{G_a(\gamma_m - \gamma_s)}{\mu^{0.5} d^{0.5} \Gamma^{-1}}$, $Re = 0.2035 \frac{G_a^{0.5}(\gamma_m - \gamma_s)^{0.5}}{\mu^{0.5} d^{0.5} \Gamma^{-1}}$, where G_a , the Galileo criterion, is equal to $d^3 \gamma_m^2 / \mu^2 g$; γ_m is the medium d. in kg./cu.m.; γ_s the droplet d. in kg./cc.; d the droplet diam. in m.; μ the viscosity in kg.-sec. per sq. m.; Γ is the criterion of geometric similarity ($d + D$)/ D , and D is the column diam. in m. The turbulent-flow equation applies when $G_a(\gamma_m - \gamma_s)/\mu^{0.5} d^{0.5} \Gamma^{-1}$ is greater than 70,000. Motion in the laminar flow region is found for values of $G_a(\gamma_m - \gamma_s)/\mu^{0.5} d^{0.5} \Gamma^{-1}$ less than 66.5. A. F.

SMIRNOV, N. I.

2
2 May

✓1391. Sinteticheskie Kauchuki. (Synthetic rubbers). N. I. Smirnov. Leningrad: Gosudarstvennoe Nauchno-tekhnicheskoe Izdatel'stvo Khimicheskoi Literatury, 1954, 2nd ed., pp. 456. This is a new edition of a work published in 1949, based on lectures (this journal, 1955, abs. 2791). A new introduction is included, concluding with a definition of a synthetic rubber "having 'a definite complex of physical properties,' and not by 'chemical composition and structure'. Several chapters have been rewritten wholly or in part, and copious bibliographies enriched with foreign references.

MT

35

W. J. K.

AID P - 2279

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 5/21

Authors : Regak, N. Ya. and N. I. Smirnov

Title : Study of adsorption processes. Part I.

Periodical: Zhur. prikl. khim., 28, no.3, 262-267, 1955

Abstract : Absorption of gases by activated carbon has been studied. Differential equations are given to characterize the absorption processes. Seven references (6 Russian: 1938-1951).

Institution: Chair of Technology of Synthetic Caoutchoucs of the Leningrad Technological Institute (im. Lensovet)

Submitted : 0 31, 1953

SMIRNOV, N.I.

13
8

Movement of bodies in a medium. IX. Movement of droplets of changing mass in a liquid medium. I. P. Shevyakova and N. I. Smirnov (Leningrad Technol. Inst. Leningrad). Zhur. Tekhn. Kibim. 29, 183-190 (1966); cf. C.R. 46, 4320a; 49, 7328f. — The math. equation for the rate of rise of a droplet in a solvent medium is similar to that of a rising air bubble in a liquid medium: $Re = k Ga^a A^{b/\Gamma_1} (Pr_B Pr_C)^{c/\Gamma_1} S^d$. The addnl. dimensionless groups are the solv. criterion $S = (1 - C_B)/(1 - C_C)$ and the Prandtl criteria of diffusional coeffs, Pr_B and Pr_C of the droplet and the medium, resp.; C_B and C_C are the solubilities of the medium in the droplet and that of the droplet in the medium, resp. The exptl. measurements for the rate of rise of droplets of BuOH, EtOH, cyclohexanol, diisopropyl ether, acrylonitrile, amine, naphthal, and AnOH in distd. H₂O and of droplets of H₂O in aniline and iso-BuOH agree with the equation within $\pm 5-7\%$. The values of the proportionality const. k and the exponents a , b , c , d , e , f , and g for turbulent and transition flows are: 1.32, 1.24, -0.5, 0.68; 0.4, 8/15; -0.02, -0.1; -1.5, -2; -0.1, -0.2; -0.1, 0.67; and 0.6, 1. By equating the 2 equations for the 2 flow regions the value of 1.46 is obtained for the boundary. The limiting value between the transition and the laminar regions was not obtained experimentally, but from analogy of the process with that of air droplets the following relation was assumed: $Re = k Ga A^{0.48} \Gamma_1^{-2} \Gamma_1^{0.48} Pr_B^{0.48} Pr_C^{0.48} S^{2.24}$; the proportionality const. k remains unknown. — I. Bencowitz

YERKOVA, L.N.; SMIRNOV, N.I.

Free precipitation of solid spherical particles in a liqued medium.
Zhur.prikl.khim. 29 no.5:733-738 My '56. (MLRA 9:8)

1. Kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskikh kauchukov Leningradskogo tekhnologicheskogo intituta imeni Lensoveta.

(Precipitation (Chemistry))

SHIRNOV, N. I.

Chem. Movement of bodies in a medium. X. Free-falling
spherical particles in a liquid medium. L. N. Erkova and
N. I. Smirnov. J. Appl. Chem. U.S.S.R. 29, 793-7
(with English translation). See C.A. 50, 16268f.
P.M.R.

PM MIT

Smirnov, N.I.

Movement of bodies in a medium. XI. Height of suspended layer of spherical particles and its relation to the reaction conditions. L. N. Erkova and N. I. Smirnov (Lenavt. Technol. Inst., Leningrad), Zhur. Priklad. Khim., 29, 1175-82 (1956); cf. C.A. 51, 8278d.—Theoretical. Criterial equations were developed for detg. the height of a suspended layer of spherical particles in laminar, transitional, and turbulent flow conditions. These equations were checked by means of exptl. data obtained with glass, Sn, and Pb spheres having diamas of 0.805-2.130 mm.

J. Rovtar Leach

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DM

Spirnov, N. I.

Rebut ✓ Movement of bodies in a medium. XII. Height of a fluidized layer of particles of different shapes and its dependence on the conditions of the process. L. N. Erkova and N. I. Spirnov (Leusovet Technol. Inst., Leningrad). *Zhur. Priklad. Khim.* 29, 1347-53 (1956); cf. preceding abstr. — The effect of the shape of particles on the height of a suspended column was detd. by exptl. methods previously described (*loc. cit.*). Cylindrical shapes were prep'd. from Al wire (1.130 mm.), cubes from NaCl, and irregular shapes from SiO₂ sand. The initial height was 8 cm. and the max. height 43 cm. The range of *Re* (Reynolds no.) and *Ar* (Archimedes criterion) was from 0.00194 to 0.255 and from 0.009 to 607, resp. The porosity $\epsilon = \{V_p - (G_b/\gamma)\}/V_b$, where *V_p* is the bulk vol. of the particles, γ is the d. of a particle, and *G_b* is the batch wt. The exptl. values were expressed by the same criterial expressions that hold for spherical particles (*loc. cit.*): $Re = c(Ar)^a$, where $c = 1$ in the laminar range, $Ar^a \leq 60$, and $c = 0.78$ in the transition range, $5000 \geq Ar^a \geq 60$. In the turbulent range $a = 0.5$ and $Ar^a > 5000$. The proportionality const. *c* is a function of the shape simplex $f = F_s/F_p$, where *F_s* and *F_p* are the surfaces of an equiv. sphere and of the particle, resp. (cf. *C.A.* 47, 280c). The equation in the laminar range is then $Re = 0.0472 f^2 Ar^a$ and in the transition range $Re = 0.110 f^{1.1} (Ar^a)^{0.1}$ for all shapes (including spheres). The exptl. data of Mintz (*C.A.* 48, 11350c) in the turbulent range are expressed by $Re = 1.15/(Ar^a)^{0.4}$. The height *h* of the suspended particles is related to the porosity by $h = h_0(1 - \epsilon)/(1 - \epsilon)$. The deviation of exptl. *Re* from calcd. values rarely exceeded $\pm 5-7\%$.

XIII. Fluidized layers of solid particles. *Ibid.* 1484-8. — Published exptl. data on the height of suspended layers of solid particles are correlated, and the relations derived by others are reduced to the generalized equations given by E. and S. (*loc. cit.*). Thus the relations derived by Lewis and Bowerman (*C.A.* 47, 924f) for spherical particles assume the form $Re = cAr^a$ with values of *c*, *a*, and *b* for the laminar, transition, and turbulent regions as follows:

0.040	1, 4.65	0.133, 0.71, 2.07	and 1.264, 0.5, 2.33
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I. Benowitz

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YERKOVA, L.N.; SMIRNOV, N.I.

Suspended layer of solid particles and its regularities.
Zhur.prikl.khim. 29 no.10:1484-1488 O '56. (MIRA 10:10)

1.Kafedra tekhnologii osnovnogo organicheskogo sinteza i
sinteticheskikh kauchukov Leningradskogo tekhnologicheskogo
instituta im. Lensoveta.
(Chemistry, Physical and theoretical)

SMIRNOV, N.I.

AUTHOR: None Given 3-12-8/27

TITLE: The Expanded Plenary Session of the Scientific-Technical Council
(Rasshirennyy plenum nauchno-tehnicheskogo soveta)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 12, p 54 (USSR)

ABSTRACT: On 31 October 1957, the scientific-technical council of the Ministry of Higher Education, USSR, convened an expanded plenary session dealing with the 40th anniversary of the October Revolution. The session was opened by V.P. Yelyutin, Minister of Higher Education of USSR who spoke on the development of higher education in the Soviet Union during the last 40 years. He stated that more than 2 million students were trained in vuzes in 1957 and that 3.8 million specialists (including 1 million engineers) were turned out by vuzes and technical schools during the Soviet regime. A lecture was delivered by Professor N.I. Smirnov (Leningrad Technologic Institute imeni Lensoveta) on the "Problems of Syntheses of New High Molecular Combinations".

AVAILABLE: Library of Congress

Card 1/1

7
1 Adsorption processes. III. Regularity of mass transfer in adsorption. I. V. Lyubimov and N. I. Smirnov (Leningrad Technol. Inst., Leningrad). Zhur. Priklad. Khim. 30, 1405-13 (1957); cf. C.A. 49, 12853h.—Exptl. data on the adsorption of H₂O vapor from air by SiO₂ gel at 19-21° were expressed by the relation: Kirpichev's criterion $K_i = \frac{Nu}{RePrC}G$; $G = d/h$, the diam. and height of the absorber. The C in the earlier equation (*loc. cit.*) was replaced by $C^* = c/\Delta c$, where c is the concn. of the component being adsorbed from the gas stream (kg./cu. m.), Δc is the driving force $a_s/\ln(a_s/(a_s - a_0))$, a_s and a_0 are the static and dynamic activities of the adsorbent, and a_s was detd. from the max. wt. of H₂O adsorbed by some of the adsorbent held in a desiccator over H₂O at 20°. To simplify the relation an attempt was made to eliminate the need of Δc by substitution of C^* or c/a_s for $c/\Delta c$, where C^* is the mol. fraction of the component in the gas stream. The following relations were obtained: $K_i = 2.1 RePrC^{1.1}G$ and $K_i = 2.7 RePr(c/a_s)^{1.1}G$. Both equations gave results that agreed with the exptl. values to within ±8%. I. B.
4
4/24/71

Smirnov, N.I.

1 Adsorption processes. IV. The dynamic activity of adsorbents. I. V. Lyubimov and N. I. Smirnov (Leningrad Technol. Inst. Leningrad). *Zhur. Priklad. Khim.*, 30, 1691-6 (1957); cf. *C.A.*, 52, 42516. The simplex $A = (a_s - a_g)/a_s$ (*loc. cit.*) is expressed criterially by $A = f(Re, C, G_1, G_2)$, where the geometrical criteria $G_1 = d/h$ and $G_2 = d/d_1$, d_1 = mean grain diam. of adsorbent (cf. *C.A.* 49, 12883) and C is the mole fraction of the adsorbing gas in the gas stream (*loc. cit.*). For the available data on the adsorption of vapors of H_2O and C_2H_6 by activated SiO_2 and C_2H_6 by activated C the plots A vs. Re are linear functions. In the high concn. range the lines are parallel, so that $A_1 = bRe^{0.8}$. In the low concn. range only the data on adsorption of H_2O vapor by SiO_2 are available; A vs. Re is a linear function. If the generalization in the high concn. range holds in the low concn. range, then $A_2 = aRe^{0.8}$. Empirically, b is independent of G_1 and G_2 , and a is independent of G_1 and C , so that $A_1 = 0.0016Re^{0.8}C^{-1.4}$ and $A_2 = 0.01Re^{0.8}G_1^{1.4}$. The point of sepn. of the high and low concn. ranges is located at the intersection of the A vs. Re lines at which point $A_1 = A_2$ and $ReC^{-1.4}G_1^{1.4} = 0.351$. These results confirm the postulate that the static activity a_s is the controlling coeff. characteristic of the adsorbing gas and the adsorbent. I. Benoitz

Distr: 4E4j

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SOV/124-58-10-11311

Translation from Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 88 (USSR)

AUTHORS: Yerkova, L.N., Smirnov, N.I.

TITLE: The Suspended Layer of Solid Particles and the Laws Governing Its Behavior (Vzveshennyi sloy tverdykh chastits i yego zakonomernosti)

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1958, Nr 45, pp 68-80

ABSTRACT. Ref. Zh. prikl. khimii, 1956, Vol 29, Nr 10, pp 1484-1488;
RZhMekh, 1957, Nr 9, abstract 10679

Card 1/1

KUZNETSOV, F.A.; SMIRNOV, N.I.

Extraction in spray towers. Trudy LTI no.60:190-205 '60.
(MIRA 14:6)

1. Kafedra tekhnologii sinteticheskogo kauchuka i osnovnogo
organicheskogo sinteza Leningradskogo tekhnologicheskogo instituta
imeni Lensoveta i Vsesoyuznyy nauchno-issledovatel'skiy institut
sinteticheskogo kauchuka imeni akademika S.V. Lebedeva.
(Extraction (Chemistry))

KUZNETSOV, F.A.; LILEYEVA, A.K.; SMIRNOV, N.I.

Coefficients of fatty acid distribution. Trudy LTI no.60:206-209
'60. (MIRA 14:6)
(Acids, Fatty) (Extraction (Chemistry))

SMIRNOV, Nikolay Ivanovich; VOL'FE, L., red.

[Theoretical principles of production processes of basic
organic synthesis and of synthetic rubbers] Teoreticheskie
osnovy proizvodstva osnovnogo organicheskogo sinteza i sin-
teticheskikh kauchukov; uchebnoe posobie. Leningrad,
Severo-Zapadnyi zaochnyi politekhn. in-t. No.2. 1961. 94 p.
(MIRA 15:3)

(Chemistry, Organic--Synthesis) (Rubber, Synthetic)
(Chemical reaction, Rate of)

AZIZYAN, A.G.; MELIKYAN, R.A.; SMIRNOV, N.I.

Hydrodynamics of bubbling processes. Report No.1: Rate of mass diffusion of gas bubbles in a liquid medium as a function of the nature and depth of the liquid and the dispersion and velocity of the gas. Izv. AN Arm. SSR. Ser.tekh.nauk 14 no.2:31-42 '61.
(MIRA 14:3)

(Bubbles)

AZIZYAN, A.G.; MELIKYAN, R.A.; SMIRNOV, N.I.

Hydrodynamics of bubbling processes. Report No.2: Derivation of equations determining mass emersion of gas bubbles in a liquid medium in case of bubbling and mixed processes. Izv. AN Arm. SSR. Ser. tekhn. nauk 14 no.3:59-69 '61. (MIRA 14:8)
(Bubbles)

S/080/61/034/002/C07/025
AC57/A129

AUTHORS: Lebedeva, N.N., Yerkova, L.N., Smirnov, N.I., Fennor, N.A.

TITLE: Investigation into concentration of synthetic latex by the method of evaporation in an air flow

PERIODICAL: Zhurnal Prikladnoy Khimii, v 34, no 2, 1961, 319-323

TEXT: In one of the Soviet plants for synthetic rubber the con-
centration of latex is carried out in an air flow in a rotating horizontal
drum, which is heated with hot water. Since this apparatus will be used
in several new plants, in the present work the effect of various factors
on the evaporative process was studied in such an apparatus (Fig 1). The
drum-shaped concentrator (1) is 402 mm long and 140 mm in diameter. It is
made of glass and has two openings, the inlet (2) and outlet (3) for the
air. The concentrator is inserted in a water tank (4) and by electrical
heating (5) the temperature is kept constant. The latter was controlled

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Investigation into concentration ...

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($d_{equiv.}$ = equivalent diameter of the cross-section of the concentrator not covered by the latex (in m), D = diffusion coefficient of steam in air (m^2/sec), w = linear velocity of air in the concentrator (m/sec), γ and μ = density (kg/cm^3) and viscosity ($kg \cdot sec/m^2$) of the initial air, k = mass transfer coefficient). The value for k was determined for the batch process from $k = G/F\Delta c T$, and for the continuous process from $k = G_{sec}/F\Delta c$ (G = amount of evaporated water (kg) in the periodical run in the T time (sec), G_{sec} = amount of evaporated water (kg/sec) in the continuous run, F = surface of evaporation (m^2), Δc = mean moving force ($kg \cdot water \cdot sec/m^3$ dry air)). The function $Nu' = f(Re)$ plotted in logarithmic coordinates indicates that experimental data are on a straight line expressed by $Nu' = 0.830 Re^{0.5}$. This equation can thus be used for practical calculations of concentration apparatus in intervals where the criterion Re changes from 400 to 1,700, and Nu' from 16 to 36. Results obtained in the present work were presented in Table 1 and 2. There are 2 figures, 2 tables and 4 references: 3 Soviet-block and 1 non-Soviet-block. The latter reads as follows: T.K. Sherwood, R.B. Pigford, Absorption and Extraction (1952).

SUBMITTED: July 9, 1960

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